# Correlations to Next Generation Science Standards

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| **Bugs and the Future of Meat** | Structural formulas<br>Functional groups<br>Polymers<br>Saturated vs. unsaturated | HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.  
HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. |
| **How Hair Removers Get Rid of Unwanted Fuzz** | Physical properties<br>Intermolecular forces<br>Molecular structure | HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.  
HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts. |

**Disciplinary Core Ideas:**
- LS2.B: Cycles of matter and energy transfer in ecosystems  
- LS1.A: Structure and function

**Crosscutting Concepts:**
- Structure and function  
- Energy and matter  
- Stability and change  
- Systems and system models

**Science and Engineering Practices:**
- Using mathematics and computational thinking  
- Obtaining, evaluating, and communicating information

**Nature of Science:**
- Scientific knowledge is based on empirical evidence.  
- Science is a human endeavor.
| **Can You Power Devices With Your Body?** | Electrons  
Electrostatic forces  
Electron transfer  
Valence electrons | HS-PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.  

HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.  

**Disciplinary Core Ideas:**  
- ETS1.B: Developing Possible Solutions  

**Crosscutting Concepts:**  
- Patterns  
- Cause and effect  
- Stability and change  
- Systems and System Models  

**Science and Engineering Practices:**  
- Constructing explanations and designing solutions  

**Nature of Science:**  
- Scientific knowledge assumes an order and consistency in natural systems. |
| **Bottled Water Wars** | Acids and bases  
pH  
Solutions  
Equilibriums  
Partial pressure  
Hydrogen bonding  
Ions | HS-PS1-3. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.  

**Disciplinary Core Ideas:**  
- PS1.B: Chemical reactions  
- ETS1C: Optimizing the design solution  

**Crosscutting Concepts:**  
- Stability and change  
- Structure and function  

**Science and Engineering Practices:**  
- Constructing explanations and designing solutions  

**Nature of Science:**  
- Scientific knowledge assumes an order and consistency in natural systems.